THE
VETERINARY RECORD.
The Official Journal of the National Veterinary Medical Association of Great Britain and Ireland.
FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 1708. VOL. 33]. APRIL 2, 1921. [NEW SERIES, No. 14, VOL. I.

General Articles.

Veterinary Public Health.*

By F. W. EMERY, F.R.C.V.S., Belfast.

Mr. President and Gentlemen,

I understand that a copy of the report of the Irish Public Health Council on the Public Health and Medical Services of Ireland has been sent to each member of this Association.

I feel sure that the report has been carefully scrutinized, and I am confident that the members of our profession in Ireland feel gratified that, at last, public acknowledgment has been made that we are entitled to a very important position in the Health Administration of the country. I need hardly say that we owe our very best thanks to our President for the great part he has taken in securing the recognition of our profession in this all-important matter.

You will have observed that the proposed organisation of the Ministry of Health includes a Veterinary Branch of the Medical Department, and in Part II. (38), under the heading "Local Health Authorities" it has recommended that a County Veterinary Officer of Health should be appointed, like other Medical Officers of Health, under arrangements for the Irish Medical Services proposed in Part III. of the report.

In view of those important recommendations it seems to me that it may be thought desirable and opportune for us to give consideration to the question of the duties which we feel ought to be entrusted to members of our profession under the proposed scheme, and in order to afford scope for discussion and to secure a free ventilation of the subject, I purpose giving a short resumé of matters which I think should be considered as falling within our province and briefly indicating my views on those subjects:

(i.) The control of dairies and the milk supply.
(ii.) The special control of livestock with a view to preventing the transmission of disease from animals to man.
(iii.) The examination of all animals intended for human food, prior to slaughter and the thorough post-mortem examination of all carcases and organs.
(iv.) The special control of livestock with a view to the control and eradication of all infectious and contagious diseases.
(v.) The control of laboratories for diagnostic purposes, and the direction of research and experimental stations such as may be necessary in connection with the foregoing enumerated duties, and for the production of curative and immunising vaccines and sera for the control and suppression of animal disease.

You will I am sure see how very closely related those matters are to each other. They really form one compact subject.

In connection with the control of dairies, our first and most important duty would be to see that all animals comprised in the dairy herds are healthy. No animal should be permitted to remain in a herd unless it is in perfect health and it should remain under close observation until it has been restored to perfect health or until the cause of the indisposition has been ascertained definitely, when it should be dealt with in the light of the information obtained.

The most scrupulous cleanliness should be enforced and all attendants should be healthy; of course to ensure the latter, the services of the Medical Officer would be required.

The proper construction of byres is another matter of importance, these should admit of a sufficiency of floor and cubic space for each animal.

Floors and walls should be impermeable and of such a nature as to be easily cleansed, drainage should be good, and nothing but surface drainage allowed inside the compartments. Ventilation

* Address delivered before the North of Ireland V.M.A. at Belfast, on Friday, February 11th, 1921.

must be adequate and so arranged as to be adaptable to prevailing winds and to admit of a perfect flushing at specified intervals.

The free admission of light must be arranged or. Contaminated surroundings should be carefully guarded against. Manure receptacles should be placed at a considerable distance from byres and dairies, and should be constructed with impermeable floors and walls. Manure should be treated at specified times with a view to attacking and destroying the common fly at the most vulnerable period of its life's cycle. These are so often the carriers of disease germs and the means by which milk and other food stuffs become infected.

The question of a pure water supply is also a matter of paramount importance.

It is of course a simple matter to insure a degree of perfection when the opportunity occurs for the construction of new byres and premises for dairying purposes, but difficulties arise when it becomes necessary to bring old places into conformity with sanitary laws. We can however keep the ideals before us, and strive to induce improvements which tend to move in the direction of those ideals.

Pure Milk Supply.

The effective control of milk must have its origin at the farm or place of production. Milk may be dangerous either as the product of unhealthy cows, or as a result of contamination. It is a splendid medium for the propagation of disease germs, and if left open to infection may become a "carrier" of disease for which the cow is in no way responsible. With the information at the disposal of the community there ought not to be any necessity to lay stress on the vital relation of the milk supply and public health. Everyone connected with health regulations realises the constant danger of a contaminated milk supply. For many infants it is an absolutely vital question, as it is their sole food, and when we remember that their powers of resistance to disease must be almost negligible we are forced to the conclusion that it is nothing short of criminal to provide those helpless creatures with a food laden with the germs of deadly diseases.

The conditions under which milk is produced makes contamination especially easy, hence the greatest care should be exercised in its handling. Expeditious marketing is also essential.

The necessity of cleanliness during milking is obvious, and this must also be carried out in a thorough manner in every stage of handling which the milk is to receive until it reaches the consumer.

That milk should be obtained from healthy cows is our first consideration. That it should be produced under the most cleanly and sanitary conditions should be insisted upon. The newly drawn milk should be transferred without delay from the milk pail to the delivery can through a sterilised strainer. When filled, the delivery can should be closed, locked and removed to a cooling chamber and should remain there until placed in the vans for distribution to the consumers. The delivery can should have a tap with a key. The salesman should have no access to the milk, his sole action being to insert the tap key and supply his customer. Consumers should be instructed to have thoroughly clean milk bowls and carry them to the milk can. They should also be instructed as to the precautions to be taken against allowing contamination of the milk in their own homes.

The milk trade, and methods of supply to large cities, is rather a complicated matter. Milk has to pass through so many hands, has frequently to be sent long distances by rail, and delay in marketing frequently occurs; for those and other reasons the necessity for taking additional precautions arises.

It therefore appears desirable that a thorough system of pasteurisation should be demanded. Of course filthy or bad milk should not be used under any circumstances. When pasteurisation of milk is desirable it should be efficiently carried out under expert supervision and then every necessary step taken to prevent subsequent contamination right up to the time it is delivered to the consumer.

In my opinion the addition of preservatives to milk should be prohibited. What right has a milk vendor to add a foreign chemical substance to a fluid which he is selling under the well known term "milk"?

Preservatives, however harmless to adults, may be the cause of serious trouble to infants and invalids or to persons who may have peculiar aversion to the chemical used.

Transmission of Disease.

The prevention of the transmission of disease from animals to man must be looked upon as a matter of great importance and urgency. The veterinary supervision of milk producing animals,

if efficiently carried out, would be of the utmost value in preventing disease in the human race. Milk from animals suffering from disease would be kept off the market.

Septic sore throats have been traced to milk originating from cows affected with septic mastitis. The tubercular infection of infants and children and even adults has been traced to milk containing tubercle bacilli and coming from cows suffering from general tuberculosis and tubercular mastitis. This source of infection is a fruitful cause of tubercular neck glands in children.

Adults and children have been known to suffer from severe gastro-intestinal troubles, vomition, and diarrhoea after drinking milk from cows affected with streptococcic mastitis.

The milk of animals suffering from foot-and-mouth disease is liable to cause illness especially amongst children, and contamination from the pustules and scab of cow pox is productive of infection through the alimentary canal. Rabies and influenza are diseases against which suitable precautionary regulations should be enforced. Swine fever is a disease requiring further investigation and should be looked upon as a possible source of danger.

Pork infested with the trichina spiralis is the usual source of trichinosis in human beings and must be carefully looked for.

The ruthless destruction of rats and other vermin so common about farmsteads should be compulsory, for, as you know, rats are frequently the carriers of the trichina.

Regulations should be adopted with a view to the elimination of possible troubles arising from such conditions of animals as ringworm, scabies, pediculosis, and animals suffering from malignant tumours should come under special control.

The best and most economical means of keeping livestock under veterinary supervision is by attendance of qualified inspectors at markets, fairs and sale yards, and at specially arranged transit centres; carry this work out thoroughly and you will secure complete information as to the general health of the animal population.

Coming to the question of meat inspection, I hold that all animals intended for human food should be subjected to veterinary inspection prior to slaughter. Animals present many conditions during life, which if ascertained, would give the veterinary surgeon very great assistance in determining the fitness or otherwise of the meat for human food. Moreover, it would prevent the dressing of the carcases of animals such as may now be brought into slaughterhouses in a moribund state and also be a guard against butchers being called upon to dress carcases affected with anthrax or other dangerous diseases.

To the lay mind the term "meat inspection" does not imply much. The general public are not sufficiently educated on this very important question. Very few people have the slightest conception that efficient meat inspection requires from the examining official a thorough knowledge of anatomy, physiology, histology, comparative pathology, and bacteriology, and that it is the fact of the veterinary surgeon possessing this knowledge that constitutes his claims to carry out and direct such work.

With a special code of regulations, and by placing the control and direction in the hands of members of the veterinary profession, a great step would be made in securing a unified system of meat inspection. By this means a great advance would be made in matters of public health and at the same time the animal trade would be stabilised. For efficient meat inspection public slaughterhouses are desirable and there seems to be no valid reason why those should not be provided. If all cities and towns took the matter up earnestly, it could be accomplished easily and quickly, and with our present rapid means of transit, most rural districts could obtain their meat supplies from the towns, but in any case, the cost of providing slaughter halls in some rural places would not be great; care, however, would have to be taken that all such places should be constructed near a railway so as to secure easy and rapid transmission of offals and any excess of meat to larger centres. Very special care should be taken to prevent the contamination of meat after it has been inspected and passed by the meat inspector.

The fact that special government departments exist for the purpose of dealing with the contagious diseases of animals does not seem to be generally known. This is really a case of "hiding our light under a bushel," for the work has been well done and the achievements excellent, but the powers require extending and the machinery enlarged and brought up-to-date.

For the efficient carrying out of veterinary public health work, fully equipped and efficiently staffed laboratories are a necessity. The worker

in the field requires the help and support of the scientist. In almost all matters pertaining to animal disease, a quick and correct diagnosis is essential and to exclude mistakes and remove doubts laboratory work is required.

Research and experimental work is vital to progress, and the very great amount of valuable knowledge that has been gained must be an incentive to seek further hidden truths which when revealed must work towards man's well-being and happiness.

The great and wonderful results already achieved in vaccine, sera and glandular therapy are but the forerunners of other and greater discoveries. Those sciences are in their infancy, but already the results are such as to give promise of ample repayment for any expenditure involved in furtherance of the work. In conclusion I would like to point out that the report of the Public Health Council really comprises recommendation only, which, let us hope, may soon be translated into legislative enactment. Meantime it behoves our profession to undertake propaganda work with a view of inducing the general public to look at those matters from our point of view.

We must not press these claims simply because they are likely to bring "grist to our mill," but because we know how really essential and invaluable our services can be in these matters. Of course we cannot work altogether from a philanthropic standpoint, and should we secure our proper place in health schemes, we must be granted adequate rewards for our work. Underpaid work invariably is inefficient work, and thus uneconomical and injurious from every point of view.

In any work we undertake let us see that we are reasonably remunerated and then let us perform our duties with enthusiasm and efficiency.

Discussion.

The PRESIDENT said he thought the profession should be indebted to Mr. Emery, and the public must be educated on that important matter. He suggested that they should encourage some propaganda work, the present moment being most opportune for informing the public of their views on a pure milk supply and the importance of meat inspection. He would like to hear Mr. Emery's views on the distribution of milk in bottles.

Mr. GREGG was of opinion that that paper should be published. It covered the whole ground in a concise manner. Every effort should be enforced to inform their prospective members in the new Northern Parliament of how the veterinary profession could be utilised for the benefit of the health of the public. With regard to milk, he thoroughly agreed with everything stated in the address.

Mr. M'CONNELL thought that the Secretaries of their County Councils required to be educated on many points from a veterinary point of view. They frequently heard of special conditions imposed by public institutions on milk contractors requiring that cows, from which the milk to be supplied was obtained should be healthy or have passed the tuberculin test, but not the slightest action was taken to ascertain whether or not those conditions had been complied with. Again, how often did they find that in children's hospitals and homes milk was accepted without its purity being in anyway ascertained? In many such cases no stipulation was made with the contractors. Surely that was very far from right. Propaganda work on their part would show their new Parliament that the profession had the interests of the public in health matters at heart.

Mr. BARRY was strongly of opinion that public apathy with regard to public veterinary health was due to public ignorance.

Mr. JOHNSTON moved and Mr. GREGG seconded a vote of thanks to Mr. EMERY for his paper.

Mr. EMERY, in reply said in regard to the question of furthering their interests and securing their legitimate place in public health matters, he might mention that upon occasions when speaking to Mr. Gill (Secretary D.A.T.I.), on veterinary affairs he had always said that neither he nor the Department required convincing of the great value to Ireland of veterinary science and the veterinary profession, he felt, however, that the general public required enlightenment on the subject and he strongly advised the profession to enter on propaganda work in that respect. Mr. Gill was one of the ablest and one of the most shrewd men in Ireland to-day and they should follow his advice.

The President had mentioned the supplying of milk in bottles. It would certainly be a safe method, provided the milk was pure and the bottles thoroughly sterilized and hermetically sealed under proper conditions. In the U.S.A. Pasteurization was favoured, and he understood that 68 per cent. of the milk used was so treated; of course milk was conveyed very long distances.

He thought the ideal plan for a pure milk supply was to obtain it from healthy cows, take all precautions against contamination and deliver it pure to the consumer.

Mr. GREGG said that in the U.S.A. milk travelled long distances in specially constructed cars, known as refrigator cars. Regulations for the control and supply of pure milk were looked upon as a most important matter.

Sheep Seventy-three Hours on Rail.

A case of interest to stockbreeders was heard at Northampton County Court, when the Stratford-on-Avon Midland Junction Railway Company sued Mr. H. Dunkley, farmer, of Wappenham, for £2 1s. 6d., for attending to and feeding 150 sheep on September 28th and 29th last. Mr. Dunkley had made a payment into court, which left only 11s. 4d. in dispute, and that amount was for overtime for two railwaymen who had to be called in to take the sheep to a field for food. It was pointed out for the defendant that before the war sheep were transported from Arran to Wappenham in 18 hours, and during the war the journey took 24 hours; while this particular consignment was seventy-three hours on the rail. If the railway company chose to delay sheep, they were not entitled to charge for the labour of feeding, but only for the actual food consumed. The judge, in giving his decision, said that it seemed to him that if there was liability for food, there should be liability for its distribution also; and he thought that a fair and reasonable sum would be an addition of 4s. 6d. to the amount already paid into court.

At Stirling J.P. Court recently, George Jackson, farmer, Westerton, Kippen, was fined 40s. for contraventions of the Sheep Scab Order by keeping a number of sheep affected with scab in a field insufficiently fenced, and allowing four sheep affected to stray on to the public highway.

The Veterinary Record.

2nd April, 1921.

THE VALUE OF DETAIL.

The clinician is often struck with the admirable results which a writer claims to have had in the treatment of a series of cases of a certain disease. Judged in the light of his own experience the course advocated promises a greater percentage of recoveries than he has obtained. It is tried, and the results are so disappointing as to be almost worthy of that sweeping condemnation, "a complete failure." The explanations put forward by the experimenter often take the form of a questioning of the diagnosis, or of imagining that the cases described were either slight or specially selected. Not infrequently the veracity of the statements and attainments are seriously and openly disputed, with the result that an honest and painstaking though shy clinician rather than be told, albeit unjustifiably, that he has blundered, keeps a store of useful knowledge to himself. A careful enquiry in a great number of these cases will show that the critic is at fault, and that all the differences arise as a result of lack of attention to detail or to delayed diagnosis, which is really almost the same thing. It is this love of detail which makes the successful diagnostician, physician and surgeon, and so lifts one man above his fellows in the practice of his calling. It has its advantages for us all, for it means better work, better results and increased demand for our services. There are indeed many diseases which may be taken as examples, but one or two of an external nature will best illustrate our purpose, for in such cases the question of mistaken diagnosis is then more remote. Canker of the sole and frog is treated by some practitioners with an ease which astounds those who are unable to achieve such facility, and the secret is *detail*. Those successful quittor treatment results, gained either by vaccine methods, or by the antim. chlor. and hydrarg. perchlor. injection method, are from time to time ridiculed by those who use the knife and have not their patients under their care for years. Sarcoptic mange is another condition in which detail ("seeing it done") in clipping, washing, dressing, re-washing, and so on, spells rapid success, whereas neglect of it results in prolonged disability.

Abstracts and Reviews.

The Diagnosis of Anthrax by Examining the Bone Marrow.

WULFF, in 1912, stated that the bacteriological examination of the bone marrow in anthrax carcases can give demonstrative results even at a period where, by reason of advanced putrefaction, they are no longer possible from examination of the blood, spleen, or other organs. The importance of this is considerably limited by the thermo-precipitation method of ASCOLI and VALENTI, which enables diagnosis to be made, even with putrefied materials; but it should nevertheless be tested carefully, with a view to ascertaining whether it may be a method of controlling the results of the serological test in cases where other methods are impossible.

According to WULFF, the plate method succeeds in finding anthrax bacilli in the bone marrow with absolute certainty, while the staining method does not give distinct results. Even in buried putrefied carcases anthrax bacilli could be cultivated from the marrow of the long bones several weeks after death.

WULFF'S results were confirmed by GRABERT, from an experience of 52 cases. He was able to obtain anthrax colonies from the bone marrow even six weeks after the deaths of the animals. Generally, success with the bone marrow is possible in the cool season for two or three weeks; later, the results may be uncertain or erratic. In the summer months the method may sometimes fail even after fifteen days.

W. PFEILER has tested WULFF'S method in 39 cases (horses, cattle, and pigs), and has reported the results in the *Deutsche Tierärztliche Wochenschrift* for 1919. In the majority of cases (that is, in 34 animals) the suspicion of anthrax was not confirmed; in these, however, the deaths of the animals could be reported as due to septicæmia or swine erysipelas. In five cases only anthrax was really present. In the first the bacteriological examination of the blood was negative and that of the bone marrow positive, and the precipitation test was also positive. In the second, microscopic examination revealed anthrax bacilli in the blood, but not in the bone marrow, while the precipitation test was positive for the blood and weakly positive for the bone marrow. In this case the bone taken was probably poor in bacterial contents. In the third case all the tests gave positive results. In the fourth case bacteriological examination of the spleen was no longer possible, but that of the bone marrow gave clearly positive results. On the other hand, the precipitin test, although positive with the spleen, failed with the bone marrow, probably on account of scanty bacterial contents. In the fifth and last case the bacteriological tests made with spleen and bone marrow were positive, while the precipitin test was positive with extract of spleen, but negative with bone marrow.

PFEILER therefore recognises the long serviceability of the bone marrow for cultural investigations, but at the same time points out the small certainty of diagnosis offered by the microscopical examination of the marrow. Evidently the richness in germs of the bone marrow is inferior to that of the spleen and the blood. It may be

that this proceeds in part from the absence of sporulation in the closed bone. Extract of bone marrow is of little use for the precipitation test, either because it becomes limpid with difficulty, or because it is poor in germs. Plate cultures will regularly reveal the anthrax bacilli in bone marrow, if an excessive period has not elapsed after death. The examination of the bone marrow (the bone should be sent for examination split) undoubtedly increases the certainty of the bacteriological investigation; but this should never exclude the precipitation test, which *remains indispensable for the diagnosis of anthrax.*—*La Clinica Veterinaria.* W. R. CLARKE.

Fowl Cholera.

A study of this disease in several flocks in California, by BEACH, has led to the belief that its nature is not well understood. In no flock was the number of deaths nearly as large as is expected when this disease appears. In one flock of 4,500 birds the total loss was 11, all of which occurred within two days and was confined to one yard. In another flock of 3,500 birds, the total loss was 35 over a period of two weeks. In this flock the males only were affected. In a number of other flocks the losses were correspondingly light, but in some outbreaks the losses were quite heavy. Uniformly good results were obtained by the adoption of sanitary measures of control.

Two experiments were conducted to determine the value of "bacterins" for controlling this disease. In one, consisting of experimentation with 800 hens, approximately one-half the flock were not vaccinated and moved to other quarters in which no poultry had been kept for several months. The other half were vaccinated once and left in the same quarters, which were given a thorough cleaning and disinfection. A 1-5000 solution of mercuric bichloride was used for drinking water for both flocks. The number of deaths following was slightly greater in the vaccinated than in the non-vaccinated half of the flock. In the other experiment one-half of the flock, numbering 164, were vaccinated twice, but not separated from the others. The deaths following were more numerous in the fowls that were vaccinated than in those that were not.

[*University of California, College of Agriculture, Annual Report of Director for* 1919-20.]

Clinical and Case Reports.

Deglutition Inability and Choking.

By J. CAMPBELL HILL, M.R.C.V.S., Llanelly.

CASE I.

Subject.—Aged shire gelding doing coal hauling, in useful condition.

Symptoms.—Returned to stable, 4 p.m., Monday; ate ravenously, after drinking. After three or four mouthfuls threw up head, stood back, began to cough and slobber. Slobbering continued; called in about 7 p.m.

The manger and floor covered with saliva; horse freely slobbering with head carried lower than usual, often down close to ground. Breathing, pulse, and temperature normal; no distress or uneasiness.

Jugular furrow carefully palpitated and nothing found.

Treatment.—Cold water drenched from bottle, but nothing would pass down to stomach, being returned by the nose and mouth; sometimes with coughing. All food and bedding removed and left for night. At 9 a.m. probang passed without difficulty to stomach. Slobbering, but not so freely. Water offered, failed to drink; remained so till death. Probang passed daily—sometimes twice, but animal could not ingest either voluntarily or when drenched. Animal died Saturday.

Examination of fodder disclosed hard pieces of stem ¼in. to 1¾in. long like pieces of cane with cut ends, rather sharp.

Post-mortem.—Stomach when everted, between centre of lesser curvature and pylorus showed an eroded patch of mucous membrane 2¼in. long and fully 1in. broad, parietal covering translucent. In all other respects normal, as were the intestines, liver and kidneys. Was this a case of ulcerated stomach?

CASE II.

Subject.—Shire mare—ploughing. Six years old, good condition.

Symptoms.—Fed 4.30 p.m., found slobbering 7p.m. Seen about midnight. Animal standing blowing hard, in distress, but not in pain. Pulse fast, temperature 102.5. Jugular groove enlarged at thoracic end; doughy. Head occasionally lowered to ground, then elevated and kept in listening attitude. Ol. lini. had been drenched as directed; had taken about one pint when the mare resisted and head was at once lowered and a fair amount of it returned through nose. Much slobber. Gave one grain physostigmine hypodermically; attempted to pass probang but failed to get further down than doughy mass at chest.

At 2 a.m. pulse very rapid, temperature 105, breathing very distressed, the animal in state of acute fear and distress. At 3 a.m. temperature 107, signs of collapse apparent, and she was shot. Probang had been tried on four occasions.

Post-mortem.—Œsophagus distended from lower end of neck to within four inches of stomach, where it was very much enlarged, in shape of small Rugby football, right to stomach. Full of material of stiff clay-like consistency, throughout enlarged and bulged portion, and this could not be pushed out with a pitchfork handle, though great force used. On cutting, material seen to consist principally of linseed (raw) that would knead like clay. The œsophagus was carefully examined, but no diseased condition could be detected. Linseed feed given by farm hand, surreptitiously, after usual feeding. Mare's history showed she had never had previous illness.

Pulse, temperature, distress of breathing, was attributed to the ol. lini. which had passed to lungs by the trachea, although farm people stated that mare never attempted to cough.

Equine Hæmoglobinæmia.

By "A Country Practitioner."

Case I.

Subject.—Fine four-year-old cart mare; usual history—frosty weather; few days' illness, sent for load of coal; proceeded a mile, commenced to stagger; unhitched to return home, but soon fell. Lay in deep snow during bitterly cold day, from 10 a.m. until contributor was called at 6 p.m. Found mare half-frozen to ground, nearly pulseless, comatose, and icy cold. Tremors of loin and croup muscles, which were rigid. Administered stimulant and drew off three or four quarts of porter-coloured urine.

Owner positive mare poisoned with strychnine wilfully administered by carter. Professional man's attendance required merely to support evidence.

After explaining case to owner's satisfaction, got mare home, but she never rallied, nursing and attention being conspicuous by their absence.

Case II.

Subject.—Six-year-old in-foal mare. Been for short journey after spell of idleness, taken ill on arrival home. Temperature 105°, perspiration pouring; nostrils dilated; great quivering of muscles, with difficulty kept standing. Spasms of acute pain, delirious, dangerous to handle, biting and striking out with fore feet.

Drew off four or five quarts claret-coloured urine; gave oleaginous purgative and full dose belladonna and liq. ammon. acetate. Applied hot blankets, which were to be changed every 1½ hours, to loin and quarter muscles, which were hard and rigid. Saw later that evening, leaving, to be given every three hours, 2·7 ammon. acet.; chloral hydras; spts. eth. nit; and ʒii doses of sodii bicarb. After twenty-four hours wet hot blankets changed for hot salt in bags, also medicine modified as required.

For a few days she was very stiff in near hand, so feared crural paralysis was developing. This passed away, to reappear in the off fore, caput muscles becoming soft and flabby. Quinine, nux vomica and pot. iod. given, and stimulating applications to parts.

Interesting feature is that for a full fortnight she was in constant perspiration, necessitating change of clothing several times daily. To this attribute escape from dreaded legacies of this disease—crural and sometimes caput paralysis. As consequence, hair almost completely shed, but soon grew. Recovery perfect; mare foaled safely, and was afterwards sold for a high price.

The Breach Presentation.

By H. W. Caton, M.R.C.V.S. (Mile End Road, E.3).

The following method is of great service in overcoming some of the difficulties met with in this connection. Patient is placed under a stout beam in a barn or cowshed, and by specially-prepared soft rope, about three feet long, with noose at each end, is slung by hocks, and raised with differential pulley to required height (usually about three feet). Knee-band applied to leg upon which required to lie. Truss of straw placed under shoulders to support; upper fetlock tied with light rope to any fixture to prevent turning to opposite side.

Objects to be obtained: causing fœtus to fall forward, affording more room for work and reducing straining of patient, especially in mares where this occurs, 75 per cent. of cases.

When fœtus favourably placed for delivery, patient lowered; after rest and a stimulant delivery proceeded with.

Small set of wooden pulley blocks for delivering of great assistance when short of men, and tension can be regulated as required. Small halter, with no nose-band, and knot tied to prevent it slipping up too tightly, placed over calf's poll and ears and into mouth, gives material help in keeping head in position, and, by being fastened level with footlines, gives good solid medium for delivery, and saves too great a strain on fetlocks.

By C. A. Squair, M.R.C.V.S. (Reigate).

Subject.—Shorthorn cow, third calving. On arrival the tail of calf was protruding from vulva. Requested attendant to insert his left arm into vaginal passage, seize rump of calf, and push it well back, and to the right. I then inserted my right arm and got hold of hock. It was stiff to get up, but after some manipulation, got hock on brim of pelvis. Asked attendant to seize hock in my hand and push it forward and away to right. Then easily got foot of calf into palm of my hand, working it round until it was straight into vaginal passage. We then changed sides, and in short time got off hind leg up; delivered calf without much difficulty.

Fortunately in this case the cow stood throughout. In the recumbent position it would not, of course, work out so well, but even then I believe it could be accomplished.

Metatarsal Necrosis in the Dog.

By "A Youthful Nescio."

Subject.—English setter bitch, nine months old. History not known.

Symptoms.—Animal lame near hind; fetlock swelling, of hard painful nature. No constitutional symptoms manifested themselves, animal behaving otherwise normally. No definite diagnosis. Ac. acet. salicyl given plus local counter irritation, as suspected rheumatism. Second visit showed no abatement in severity of symptoms; swelling had extended towards the paw, and was softer. Hot fomentations applied in addition.

Two days later swelling broke and antiphlogistine used. No good purpose served, because skin and tendons separated right round metatarsal bones, leaving the latter exposed. Bitch therefore destroyed.

Animal presumably injured the part, but necrosis which caused separation was unusual, there being no line of demarcation, even when rupture had occurred. Cut off area appeared healthy, and no unusual odour could be detected.

Association Reports.

Royal Society of Medicine and Central Veterinary Medical Society.

ERADICATION OF TUBERCULOSIS IN MAN AND ANIMALS.

A combined meeting of the Royal Society of Medicine and the Central Branch of the National Veterinary Medical Association was held, under the chairmanship of Sir John Bland-Sutton, on March 14th, to discuss "The eradication of tuberculosis in man and animals." The meeting was consequent upon a previous one held on February 3rd, when the more general subject of "Diseases of animals communicable to man" was the subject of an address by Professor Hobday.

Bovine Tuberculosis.

Sir JOHN MCFADYEAN, in opening, said that no one could accuse veterinary surgeons of neglecting the subject of communicable diseases. To a certain extent it had become almost threadbare, and some aspects were not always presented in quite the right perspective. It was true that the diseases of animals which were transmissible to man formed a considerable list, but, apart from tuberculosis, the cases of actual transmission of these diseases in this country were about as frequent as the occurrence of deaths from lightning in summer. If all the cases occurring in this country of transmitted disease were divided equally among all the veterinary surgeons, each surgeon would only have to do with one case in three years, or, in certain of the diseases, one in ten years. Where, then, was the proposed specialist in transmissible diseases to find his material? Tuberculosis, however, was in a different category altogether. It was a disease met with in all the domesticated species, mammalian and avian, though it was now generally agreed that the avian was a distinct disease, and was transmitted rarely, if ever, to human beings. For veterinary surgeons the question almost entirely was that of bovine tuberculosis; only a very small percentage of cases of tuberculosis met with in veterinary practice was distributed among other species. Bovine tuberculosis was an independent disease. The eradication of tuberculosis from the human race, and from all species of domesticated animals other than bovine, would, as far as one could see, still leave the incidence of bovine tuberculosis absolutely unaffected. On the other hand, the eradication of tuberculosis from cattle would reduce almost to vanishing point the cases of tuberculosis met with in other domesticated species, and would appreciably reduce the incidence of tuberculosis in man. It was impossible to say what was the percentage of tuberculosis among young bovine animals up to the age of 2 years; slaughterhouse statistics and records of tuberculin testing on a sufficient scale were lacking. But there was evidence to show that the incidence was not high in young animals. It rose with age, and became serious only in animals over 2 years old. Among adult cattle the proportion affected was not less than 30 per cent.; he believed it to be higher. The eradication of tuberculosis from the cattle of this country was only possible if it could be carried out regardless of cost. It would involve the compulsory tuberculin testing of all cattle and the slaughter of the animals which reacted. That would mean the slaughter of from 750,000 to a million cows or heifers. No Government would find the money to compensate for such a slaughter, and even if it did take place the result would be so to reduce the milk supply as to drive up the price to an impossible figure. If instead of slaughtering all the affected animals they were placed in isolation, such isolation would have to be permanent, otherwise the disease would not be eradicated, and it would extend from animals known to be affected to animals which had been put aside provisionally. But the owners of valuable pedigree herds might do a great deal towards the eradication of tuberculosis from the herd. Most of them were wealthy men, and had facilities which made eradication a possible policy. The Research Institute in Animal Pathology at the Royal Veterinary College had recently made an offer to the owners of any pedigree herds in this country to lend free assistance, including the supply of tuberculin, and some few very valuable herds had already been placed in the hands of the Institute. If wholesale measures of eradication were impossible, a more moderate measure to prevent the infection of human beings might be taken by reviving the Tuberculosis Order, which was introduced in 1913 and suspended on the outbreak of the war, to cut off the supply of milk from cows with tuberculosis of the udder and from other cows that presumably were passing tubercle bacilli. The infection through meat had no doubt been immensely exaggerated in the past; milk was the chief avenue of infection, and accordingly he proposed:—

> That the Fellows of the Royal Society of Medicine and the Central Branch of the National Veterinary Medical Association, assembled in joint meeting, are of opinion that the prevalence of tuberculosis among cattle in this country continues to be a serious menace to the health of human beings, and that to counteract this danger the reintroduction of the Tuberculosis Order, which was suspended in 1914, is urgently required.

The Milk Problem.

Professor LYLE CUMMINS (Cardiff), who seconded the motion, referred to the great amount of patient research being carried on by Dr. Stanley Griffiths and other workers, and he had no doubt that in the course of time much more would be known about the actual importance of bovine infection to man. It could be said for certain that bovine infection gave rise frequently, in children at any rate, to meningitis. A large amount of abdominal tuberculosis was due to the same cause. But, taking the whole pool of human tuberculosis in England, what really counted was phthisis, and in this connexion he recalled the interesting light thrown on phthisis by Dr. Brownlee in his great statistical investigation, which showed that throughout Great Britain there were two types of mortality—a young adult type and a middle-aged type; and that while the young adult type led to a preponderance of deaths in certain areas, chiefly great scattered areas, it was the middle-aged type of death chiefly which obtained in London and other great aggregations of population. The young adult type appeared not to be correlated in any way with milk, whereas the distribution of infected milk appeared to be definitely linked up with the middle-aged type of death. This circumstance did suggest that, although death eventually occurred, the total period of the disease was prolonged in the class of cases in which milk infection might be concerned, so that there must be some influence as a whole favourable to the people where the tuberculosis terminated in the middle-aged type of mortality as compared with the people who died rapidly of the young adult type. Some of that prolongation of the effects of tuberculous infection might possibly be due to a partial vaccination by a bovine strain. He knew that this was dangerous ground, but such a vaccination was very plausible and seemed to cover a great many of the facts. On the other hand, he would regard the advocacy of such vaccination as entirely unjustifiable, because this vaccination, even if it existed, could not be controlled. He could not free his mind from feeling that it did exist, and played a very important part in the great diminution of fatal phthisis which had taken place in recent years; but to advocate it was a different thing, for the knowledge of it was not yet established, and, even if it were, it would have to be admitted that milk as a vaccine could not be

controlled as regards dose. The only policy, therefore, was to better the milk supply and diminish infection. The means of transportation and distribution of milk were extremely uneconomic. This essential nutriment was sent over the country in very dilute form. The volume of milk in proportion to its nourishing qualities was large. It was a matter for the physiologist to tell them whether, without depriving children of necessary vitamines, the bulk of milk might be diminished by drying processes, and yet the risk of producing deficiency disease be negligible. This voluminous and difficult material was liable always to contamination by other germs in transit, and if it could be diminished in volume, without losing any physiological essential, a purer milk supply would be assured. Here again, however, our knowledge was not yet complete.

A Plea for Comparative Pathology.

Sir CLIFFORD ALLBUTT said that he would be only wasting the time of the meeting if he were to enter upon the large field of tuberculosis in the endeavour to illustrate or enlarge that subject. Moreover, those present had heard technical addresses, and would hear yet others, dealing with these matters in an intimate way which he, on this occasion, did not propose to follow. He would take another line—a paradoxical line—by asking: What was the good which tuberculosis had done for the human race? Had not tuberculosis brought certain benefits to mankind? He remembered in his early days, when he began practice in Yorkshire, that the Yorkshire dales—those long valleys of the Wharfe and the Swale and the Don—were full of enteric fever, which was endemic in those places. It was looked upon either as a kind of visitation from God or as something in the atmosphere, in any case wholly outside human interference. So things went on until the appearance of the excellent work which was done upon the enteric bacillus, and thereby some notion of the way in which disease arrived and might be met got driven into the minds of the people. Before that time—and often, he regretted to say, since that time—the farmsteads in those valleys were centres of stench, and vermin, and disease, and one might as well have talked to one of his own bullocks as to the farmer on the way in which disease arose in those places and how it might be counteracted. The same was true of the squire; he was just as stubborn as the rest. And in that respect the enteric fever brought with it this benefit, that it did have the effect of informing the people as to the causation of disease. It was useful to consider in what respect tuberculosis had done something of the same kind. Koch's discovery of the tubercle bacillus in 1882 was like a stone cast into a stagnant pool. People began to realize in what way disease was bred amongst them—that it was due to a living virus which it was for them to discover and counteract. In that way a great piece of education was carried right among the people by tuberculosis. The thing was taught even to the babes and sucklings—to such innocents, for example, as the butcher and the milkman. Even these people were obliged to become, in a sense, scientific. Only recently, to take another example, the world had been made aware of the wonderful results obtained in the case of glanders by the veterinary schools in the war. Glanders was diminished—he might almost say obliterated—and the work with mallein was seen by every stable boy. That was the first lesson. These schoolmasters chastized us with scorpions, but they also instructed us. The second lesson was that if a successful campaign against these diseases was to be undertaken, it must be a long and slow and laborious business. That was what the public even now would not see. The public would bestow a relatively small sum for investigation and ask for results in three months. Tuberculosis was teaching the public, however, that the investigation of any one of these diseases, or even parts of any one of them, must be long, slow, and extremely expensive. In the growing of crops it was necessary first to clear the ground, and then to plough and harrow, which took a long time; and even after the seed had been cast it lay apparently dead for months before the blade appeared. Not less patient must be the investigation of disease. It was a long and costly process, and the public must learn that means had to be provided for its continuance, while the men who were engaged upon this enormously difficult question must also recognise that it would take a long time, and they must work with faith and hope, sure that the results would come some day, though they could not say when. The third lesson was this: that if these great questions were to be understood—and they were confining themselves to the question of immediate pathology, of tuberculosis among other diseases—there must be a combination of forces. The large principles of disease would never be determined until there was a system of comparative pathology, with establishments of various kinds for its study on a large and sufficient scale. At present the work was being done, though with very great success, in departments which were almost isolated. Good work had been done alike by the entomologists, and in the veterinary schools and in human medicine, but all were working in their independent ways. So far as he knew, pathology was the only subject which had hitherto declined to call—or at any rate had been supine in calling—the comparative method to its aid. Anatomy could not live without comparative anatomy. Law made use largely of comparative history; the study of religion, of philology—wherever one looked, the same comparative method was followed. None of these subjects could have attained its present position without comparative study. The establishment of the study of comparative pathology, and the linking together of the several departments, would greatly aid and encourage investigation, and would counteract the tendency to extreme specialism; there must be specialism, of course, but it need not involve isolation.

Sir Clifford Allbutt went on to say that he was sanguine enough to believe that, with the presence of distinguished veterinarians at the Royal Society of Medicine that evening, they had the beginning of a comparative pathology. They had heard what Sir John McFadyean had said; they had recently had placed in their hands a new edition of the work on pathology by Major-General Smith, and they knew the admirable work done by Professor Hobday and others, as exemplified in the *Journal of Comparative Pathology* and elsewhere. Mr. Scott, of Bridgwater, and others were working hard at the establishment of a systematic study of pathology, embracing more than their own subjects. On his (the medical) side he was afraid the links were few; one of the strongest was the chairman of the evening (Sir John Bland-Sutton). As Professor Stanley Gardiner had remarked the other day, millions of the best of our race owed their lives to the labours of forgotten men of science who laid the foundations of our knowledge of the generations of insects and flat worms, the modes of life of lice and ticks, and the physiology of such lowly creatures as the amœba, leading up to the parasites of malaria, typhus, dysentery, and so on. All that knowledge thus acquired would bear its best fruit in the field of comparative pathology. Who was not astonished to read in the newspapers recently that even herrings depended on sun spots? The whole doctrine of evolution was comparatively recent and had not yet come into pathology as it ought to have done. He was thankful that the veterinary profession had come to their support that evening. While there could, of course, be no fusion, co-operation in common work was feasible, and this should obtain, not merely between human and veterinary medicine, but between entomologists also, and workers in the whole field of animals and plants. That must be largely the work of the universities. He was not entitled to speak for any other university than his own, but at Cambridge they would never think of establishing a veterinary school. The practical work must be learned in special large centres. He did not know what might be the position in the northern universities, but neither Oxford nor Cambridge was so placed as to be able to have—even if it ought to have, which he did not

believe—a veterinary school. It was, however, the business of the universities to establish schools of comparative pathology on those broader and more abstract lines, while the actual work for the professions might continue to be done in the large centres. Veterinarians had their own school, and had, and always would have, their one portal. But it was the business of the universities to link up, if possible, all these various practical fields, and to teach the application of certain broad scientific principles. It was these three lessons which, he ventured to think, tuberculosis had helped to teach mankind, and to that extent it had benefited the race. He was very glad to hear the other day that a committee for comparative pathology had been started, and that Sir David Prain was to be the chairman. That showed, at any rate, a desire that it should be on the broadest lines of comparative work, which included work on plants, for they must remember that when they were speaking of the pathology of enteric fever and similar diseases they were speaking of plants and of unicellular plants, which had so vast an influence over the destinies of mankind.

Dr. A. C. INMAN said that an immense amount of patient and careful work had been done since Koch's discovery to establish the extent to which the bovine type of bacillus infected man, and which type, human or bovine, was the more important in human disease. On taking cultures from all types of tuberculous disease in man it had been found that the bovine infections for all ages worked out at 18·7 per cent. of the total number of cases. But on analysing these forms of tuberculous infection in man great differences were found. In phthisis, taking all ages, the percentage of bovine infection was only 1·4, while cultures made from tuberculous glands in the neck in young children during the first five years of life showed the bovine infection in 85·7 per cent., and between the ages of 5 and 10 in 65 per cent. The bovine infection, therefore, was a reality, and great precautions must be taken about the consumption of infected foodstuffs. Unhappily, in the case of tuberculous infection, there was not, as yet, any certain means of diagnosing the disease at an early stage. Some test was wanted whereby the disease could be diagnosed before bacilli appeared in the sputum.

Dr. HALLIDAY SUTHERLAND argued for agreement upon certain general principles. After Koch's discovery, right up to the present time, nine people out of ten when asked what was the cause of tuberculosis would reply, "The tubercle bacillus." Philosophically, that was wrong. Tuberculosis was the result of the bacillus on the one hand and of a lack of resistance of the body on the other. The fighting bulls of Spain were free from tuberculosis because they led a life in the open. Tuberculosis was an expression of an imperfect civilisation. Apart from the discovery of a definite specific, like "606" for syphilis, all their efforts would be only partially successful until the resistance of the race was improved and man was made to lead a healthy life. The idea that any good would be got from tuberculous milk as a means of vaccination seemed dangerous. It might be uttered in a medical meeting without doing any injury, but it would be taken up by dairy farmers and agricultural papers and used as an argument against doing anything in the matter of tuberculous milk. If there was anything in this vaccination, let all children be vaccinated with cultures of tubercle bacilli, but first let the results of protective inoculation both of cattle and guinea-pigs be called for; so far these results had failed to warrant the application of that theory to man. He thought it dangerous to rely upon laboratory diagnosis in medicine. While nothing was perfect, they had at present in clinical methods of percussion and auscultation, verified by X-ray examination and the tuberculin test, a good working technique whereby tuberculosis might be diagnosed at least two years before the bacillus appeared in the sputum.

Professor F. HOBDAY said that workers in human and veterinary medicine covered much ground in common, nad by working in unison better results would be obtained than if each side kept within a watertight compartment.

Sir JOHN MCFADYEAN, in replying to the discussion, said that the incidence of tuberculosis at different ages in man could be explained without assuming that milk from tuberculous cows was an important factor at all. He denied that Spanish bulls of the ring were free from tuberculosis, and he knew that tuberculosis might occur to a somewhat serious degree amongst ranch cattle which had never been under a roof.

The resolution calling for the reintroduction of the Tuberculosis Order was carried unanimously.—*British Medical Journal, 19th March*, 1921.

The North Midland Veterinary Association.

The eighth annual meeting of the above Association was held at the King's Head Hotel, Change Alley, Sheffield, on Tuesday, February 8th, the President, T. Bowett, Esq., in the chair. The following members were also present:—Major Abson, D.S.O., Messrs. W. Collinson, T. C. Fletcher, G. Green, R. Hudson, J. S. Lloyd, S. H. Nixon, C. S. Smith, H. Thompson, H. L. Torrance, and J. H. Yates, O.B.E. An apology was received, regretting his inability to be present, from Capt. E. F. Angler, Doncaster.

The minutes of the last meeting, having been printed and published, were taken as read, and were adopted. The report of the council meeting held on January 25th was read by the honorary secretary and adopted. The balance sheet for 1921 was submitted by the honorary treasurer, it having already been audited by Messrs. Murgatroyd and Sampson. The statement showed that whilst the income of the Association had been £10 17s. 11d., the expenditure had been £17 15s. 4d., excess of expenditure over income being £6 17s. 5d. It was explained that the income should have been more, but several members' subscriptions were in arrears, whilst the expenditure for the year had been excessive owing to three items coming up for payment which would not arise in future years. The balance in the bank on January 25th, 1921, was £33 19s. 5d.

Mr. T. BOWETT then delivered his presidential address, in which he proposed, he said, to make some remarks on current topics and on the well being of the veterinary profession. "At our last meeting," said the President, "Mr. Buxton kindly came down and explained the reconstruction of the National. Unfortunately I was conspicuous by my absence. I have, however, read about the objects of this Association, and think that they aim at good for us. We are practically forced into membership through the purchase of the *Veterinary Record*, and perhaps this may be the best way of getting our whole-hearted support, but it seems to me rather a peculiar way to go about it. It appears, however, that our liabilities in case of accident only amount to £2 2s,.; so I think, since good is evidently meant, we ought to give our best support and let the Association have a fair chance.

You will have noticed the free offer from the Royal Veterinary College, through Sir John M'Fadyean, to the Shire Horse Society of a vaccine against, and as a cure for, joint-ill in foals. The vaccine, however, is not limited to members of the Shire Horse Society, but any member of the Royal College who applies will be supplied for use on mares and foals of any breed. We should all give this vaccine a thorough trial by persuading every owner of an in-foal mare, and in particular in our districts the owner of the Shire, to have his mares and foals treated. A fee can of course be charged for the injections. If the treatment proves successful, which I hope it may, it will be a great boon to the agricultural community.

The mallein test, too, has now to be carried out under new regulations from the Board of Trade. Personally I can see no object in the new regulations as to temperature taking. My rule has been to take this at the 12th, 15th, 18th, 21st hours after injection, and I really do not think the temperature counts for much; it is the local swelling, if any, that one looks for and carefully examines for a re-action. However, it now means an all night job for someone, as the temperatures have to be taken at the 6th, 9th, 12th, 15th, and 20th hours.

Canadian Store Cattle Question.

I think to some extent the importation of Canadian store cattle should be considered by the profession. The first thing to consider, of course, is the public benefit, and if it would be an advantage. If so, then the cattle should be allowed to come in. But would this be the case? It is my opinion that it would very much interfere with the raising of store stock in this country. The breeder could hardly rear and feed at a profit, if his sale price was reduced by the importation of some 200,000 Canadian cattle; and would the heifers brought over be of any profitable use for milking purposes? If the raising of store stock was interfered with, and the heifers brought over proved unprofitable, then I say it would eventually be a bad thing for the country and not too good a policy from the veterinary surgeon's point of view. As far as contagious disease is concerned, this does not seem likely to be introduced from Canada. A conference on this matter is to be held at the Guildhall, London, on March 9th.

I had almost forgotten to speak of the well-being of the profession, though things look rather black with the increased introduction of the motor on the road and land. It is pretty certain that another door will open as one partly closes on the dear old horse, so we must keep the profession to the fore, work hard, and then I think we cannot go down.

I must not close these few remarks without some reference to our past-president, Mr. Hudson. He might have been re-elected to the chair had he chosen, but eminent men are usually very modest, and this is evidently one of his characteristics. I am sure we are all very grateful to him for his energies and the instructive demonstrations he has given from time to time during the past year."

Mr. COLLINSON stated that he had used the serum supplied from the Royal Veterinary College by Sir John M'Fadyean for foals for over three years, and last year he had sent specimens of blood from the mares. He could not say that he had had any great results by treating the foals. He thought his results had been better by using the Parke-Davies mixed infection of cocci and colon bacilli, treating successively for three or four days, a dose of one thousand million being used on the first occasion and five hundred million on the succeeding days. With that treatment he had obtained 50 per cent. of cures.

Mr. SMITH thought there was no advantage in taking the temperature at the 6th and 20th hours when testing with mallein, he preferred to take the temperature at the 9th, 12th, and 15th hours, making further examination of the local re-action at the 36th hour. He thought the local re-action was the most reliable part of the test.

Mr. GREEN thought the intra-palpebral or eye testing was the best. It was easy to carry out, and when testing a large number of horses the results were fairly easily obtained.

Mr. TORRANCE confirmed this, saying that with a large number of horses, such as had been tested in the army, a great amount of work would be required to subject the horses to the subcutaneous test, together with the taking of temperature on at least three occasions, which it necessitated. There was general agreement that the regulations ordered by the Board of Trade for mallein testing pit ponies should come before the profession before becoming operative, and that the considered decision of the profession should be enacted.

The HONORARY SECRETARY remarked on the importation of Canadian store cattle, and stated that he could see no reason for expecting any reduction in the price of beef as the result of such importation, seeing that the number of store animals which Canada could at present export would only be about 200,000 per annum. He had seen statements made by butchers that there would be an immediate drop of about 6d. per lb. in the price of beef. He, however, thought this would be proved to be a fallacy should Canadian stores be allowed to come in. He thought that such importation would seriously upset the rearing of cattle in this country, would interfere with the supply of milk, and also with the breeding of pedigree cattle, which now was a very important part of the cattle rearing industry, seeing that nearly every country in the world had to come to this country for bulls with which to improve their cattle stock. At present there was no doubt that farmers were rearing a much greater number of calves than they had any time during the last three or four years. Seeing that the stock of cattle, and incidentally sheep, in this country was much reduced, farmers should be encouraged to rear their own animals and increase the supply of home-bred stock. The importation of Canadian store cattle, on the other hand, would discourage farmers from rearing home-bred cattle; the result of this would be chiefly seen in decreasing the milk supply of the country.

Mr. FLETCHER proposed a vote of thanks to the president for his address.

Mr. YATES, seconding, supported the good results of the intra-palpebral test, and stated that he would on some future occasion give a demonstration of the test. There was no necessity for taking the temperature at all, whilst the test was also cheaper, as only half a dose, equal to four minims of mallein, was required.

Major ABSON also spoke of the ease with which the test was carried out.

The next item on the agenda was the discussion on Mr. Buxton's paper on the "Reconstruction of the National," but as the paper had not been published and very few of the members being present when the paper was read, this item was passed over.

The PRESIDENT then called upon Mr. Green to read his paper on "Some Interesting Cases and Experiences met with during the War." At the conclusion of Mr. Green's paper the members sat down to dinner, after which a paper on the same subject was given by Mr. Yates. (See future issue for both papers.)

Mr. BOWETT, in proposing the vote of thanks to the Past-President, said Mr. Hudson took considerable trouble to attend the meetings of the Association regularly, in addition to giving several practical demonstrations during his year of office. The best thanks of the Association were due to him. Mr. FLETCHER had great pleasure in seconding the vote of thanks, and it was also supported by the Honorary Secretary. The latter called attention to the somewhat meagre attendance of members at some of the meetings. He said such attendances did not encourage the President, and he hoped they all would do their best to attend and support the new President.

Mr. HUDSON, in replying, said he often felt that he had not done enough. He hoped the members would turn up and support the new President, and that all would try to advance professional knowledge.

A vote of thanks to the President for his conduct in the chair terminated an interesting meeting.

Lincolnshire and District V.M.A.

The annual meeting of this Association was held at the Angel Hotel, Grantham, on Thursday, February 10th. Mr. A. D. Lalor (President) was in the chair, and there were also present Messrs. W. W. Grasby (Vice-President), W. W. Lang, E. Porter-Smith, T. A. Rudkin, F. H. Sugden, T. Hicks (Hon. Secretary).

Letters of apology for non-attendance were received from Messrs. F. L. Gooch (Stamford), R. W. Knowles (Wisbech), G. Lockwood (Peterboro'), W. A. Dickinson (Crowland) and C. W. Townsend (Long Stanton).

The minutes having been approved, Mr. T. F. Hall, M.R.C.V.S., Huntingdon, was elected a member of the Association.

Mr. F. L. Gooch and Mr. W. Lang having attended as delegates from the Association to the Congress of the National Veterinary Association and the Sanitary Congress, presented written reports, which were duly received and ordered to be entered in the report of the day's proceedings.

The Secretary read The North of Ireland Veterinary Medical Association's circular letter with reference to the new motor taxation.

Mr. GRASBY said the doctors were feeling the effects of the taxation in the same way as themselves, and if they were going to take any action it was desirable that the veterinary profession should join them.

It was agreed that the meeting was in full sympathy with the resolution from the Irish Association, and that the National should be asked to broach the subject to the medical profession.

The Record.

The HON. SECRETARY said he had been approached by the National Association to collect material, news interesting to the profession, and articles to go in the *Veterinary Record*, and to do his utmost to stimulate others to write for it. The paper was now run entirely by the Association, and so was in a sense the property of every member, and consequently worthy of their full support.

Several members spoke of the great improvement recently effected in the *Record* and of its high value to the members of the veterinary profession.

A further letter was read from the National, relating to the formation of a publication committee to consist of one elected representative from each division.

The meeting elected Mr. W. W. Lang to the office.

It was agreed to support the resolution relative to meat inspection by veterinary surgeons, circularised by the Joint Council of Royal Counties V.M.A., Southern Counties V.S. and the South Eastern V.A.

The resolution of the Mid.-West and South Wales Association regarding the constitution of the Examining Board was discussed.

Mr. RUDKIN said he thought professors were the best men for the work. Men acting as ordinary practitioners could not keep themselves sufficiently up to date to examine students.

The HON. SECRETARY said he had known men to be "plucked" in their examinations because they did not know the examiner's pet scheme for certain operations.

Mr. PORTER-SMITH said at any rate the general practitioner knew what the general public wanted, and if the students did not, they were not much use.

The letter was laid on the table.

A letter was received from the National Association thanking the District Association for the practical way in which they had shown their support of that body.

The SECRETARY said this arose out of the decision a year ago to pay the subscription for the years it had been in abeyance, owing to the war. They were only asked to pay one year, but sent a cheque for £11 4s. to cover the whole period from 1914 to 1920.

The CHAIRMAN said it was gratifying that their action was appreciated.

County Fees.

Mr. PORTER-SMITH produced a letter from the County Council of the Lindsey Division of Lincolnshire in reply to the application of the veterinary officers for an increase in their travelling allowance. The writer said: "It is understood that a uniform scale will shortly be under consideration, and therefore the matter may be deferred until that is decided."

Mr. GRASBY: Then you are still at the old fees?

Mr. PORTER-SMITH: Yes, 1s. per mile, one way.

Mr. GRASBY said he thought it monstrous. In one county they had granted a 20 per cent. increase, to date back to last March.

Mr. PORTER-SMITH said when he hired a car it cost 1s. 6d. a mile each way, plus 3s. 6d. for waiting. The fact was they had a very hazy idea about the matter.

Eventually the meeting passed the following resolution:

That this Association is of opinion that, in view of the increased motor taxes, and the heavy cost of running and maintaining cars, combined with the high cost of living, the fees paid for veterinary services by County Councils are totally inadequate, and that it is impossible for members to continue their professional services unless a substantial increase is granted.

This was ordered to be sent to the Agricultural Committees (of the County Council) of Lindsey, Holland and Kesteven.

The HON. TREASURER'S report for the year revealed a satisfactory financial position, as, despite the payment of the National subscription for the war years (an item of over £11), the funds showed a balance at bank of nearly £20.

A letter was received from a London gentleman, asking for support for his candidature as a member of the Council of the National Association. After some discussion it was agreed that country practitioners would be better represented by a country member. It was also suggested and favourably considered that Mr. C. W. Townsend, of Long Stanton, should be put forward as a candidate for the Council when opportunity occurs, and that other District Associations should be asked to support him.

At this juncture a letter was read from Mr. Townsend, in which he said he hoped that members would support the *Record* as much as they could. He also suggested that a practical demonstration should be given at the June meeting.

An informal discussion took place regarding fees paid by various insurance offices for veterinary services.

Mr. LALOR said his term of office as President had expired. He was afraid it had not been very productive, but he had done his best.

The SECRETARY said it had been productive, in that it was owing to the President that they had inaugurated practical demonstrations at their meetings.

Mr. RUDKIN proposed the election of Mr. T. Hicks as President for the year. He had worked hard for the Association as hon. secretary for many years.

The CHAIRMAN seconded, and the resolution was carried.

Mr. W. W. Lang, of Brigg, was appointed hon. secretary and treasurer in the place of the new president.

Mr. Rudkin moved a hearty vote of thanks to Mr. Hicks for his excellent and efficient services during the nine years he had acted as their hon. secretary and treasurer. He had given a great deal of time to the duties, and had carried them out with marked ability.

All present heartily concurred, and Mr. Hicks having briefly thanked the members for the compliment, the meeting concluded.

W. W. LANG, *Hon. Secretary.*

Notes and News.

Joint-Ill Inquiry.

The report of the proceedings at the meetings of the Clydesdale Horse Society left something to be desired, says the *Scottish Farmer*, in the matter of the inquiry into joint-ill or navel-ill in foals. The committee entrusted with the business has now been at work for about four years. Excellent progress was made during the first year, and the reports submitted at this time three years ago were distinctly encouraging. The tests applied in the season of 1918 appeared to confirm the findings arrived at on the basis of previous work. Certain encouraging features were presented, and in 1919 a start was made with the treatment of both mares and foals with vaccine and serum prepared as a result of the lessons learned in the immediately preceding seasons. The work done in 1919, though it did not yield much result, encouraged a much more extended use of the vaccine and serum last year.

The reports received justify optimism as to the final results, but it would appear as if many veterinary surgeons to whom the vaccine and serum were supplied were either unable or unwilling to take the necessary pains to control and test every case in which these products had been used. Wisely, the committee have resolved

to be much less generous in their distribution of the vaccine and serum this year. These will only be supplied through three leading members of the veterinary profession in each of the three areas, having Aberdeen, Edinburgh, and Glasgow as their centre. These are Mr. William Brown, M.R.C.V.S., Marischal College, Aberdeen; Principal O. Charnock Bradley, F.R.C.V.S., Royal (Dick) Veterinary College, Edinburgh; and Professor John R. McCall, M.R.C.V.S., 331 Byres Road, Glasgow. The men to whom the committee's vaccine and serum will be supplied will be few in number; they will be carefully selected, with a regard to their training and keenness of interest in research work, and vaccine and serum will only be supplied on the definite condition that a careful record of each case of application be kept and filed.

Professional men can only conduct and carry through successful research work when they have the cordial co-operation of breeders. What is needed to ensure success in this inquiry is the closest co-operation between breeders and the members of the veterinary profession who may be entrusted with the use of the vaccine and serum distributed under the control of the gentlemen named.

A Bad Disease Month.

The report submitted from Sir John McFadyean at a recent meeting of Council of the R.A.S.E. does not make pleasant reading. Anthrax outbreaks number 53 for the four weeks dealt with, with 61 animals attacked, as against 40 outbreaks and 54 animals attacked in the corresponding weeks of 1920. Of the 53 outbreaks, 20 were in England and 33 in Scotland. Since the beginning of the year reported and confirmed outbreaks have numbered 116, with 141 animals affected, as against 76 outbreaks affecting 94 animals in the same period a year ago. England still has pre-eminence in respect of outbreaks of swine fever. During the four week there were 83 outbreaks, of which all were in England except 9. Of these Wales had 4 and Scotland 5. It is in respect of sheep scab that Scotland makes the worst appearance. During the four weeks 116 outbreaks were reported, an increase of 34 over last year's figure for the same four weeks. Of these 116 England had 63, Wales 27, and Scotland 26. For the year so far as it has gone the total is 264 outbreaks, or 64 more than for the same period in 1920. Denbigh had 8 outbreaks, the highest of any one county: Devon and Kent had 7 each and Montgomery had 6. Fife and Stirling had 5 apiece, and Perth had 7; Cumberland, Argyll, Inverness, Ross and Cromarty 4 each, Midlothian, Sutherland, and Ayr 1 apiece. Parasitic mange is rather prevalent in England, with 326 outbreaks during the four weeks. Scotland has 30 in the same period. Foot-and-mouth was confined in two outbreaks in Yorks, East Riding. Since the beginning of the year there has been 23 outbreaks of this disease, as against 34 in the same period of 1920.

Veterinary Science Congress in Australasia.

The fifteenth meeting of the Australasian Association for the Advancement of Science was held at the University, Melbourne, during the week commencing January 10th, 1921. Though these meetings generally are held every two years, owing to the war and the impossibility of gathering scientists together, a period of seven years had elapsed since the last meeting. During this time, however, the parent society—the British Association— has held a meeting in Australia (in 1914). The present meeting was to have been held in Hobart, Tasmania, but, owing to the shipping difficulties consequent on a strike it had at the last moment to be transferred to Melbourne.

As with the parent Association all branches of Science are represented, there being in all thirteen sections. Previously, veterinary science had occupied a sub-section of agriculture, but has now been allocated a full section.

The officers of this section were:—*President*, Professor H. A. Woodruff, Melbourne. *Vice-Presidents*, Professor J. Douglas Stewart, Sydney; Dr. J. A. Gilruth, Melbourne; Mr. Max Henry, B. V.Sc., Sydney. *Committee*, Dr. W. T. Kendall, Messrs. W. A. N. Robertson, and C. N. Meyers. *Secretary*, Mr. T. Philp, L.V.Sc., Hobart, who carried out the initial organisation, but owing to his inability to come to Melbourne, Dr. H. R. Seddon subsequently undertook his duties.

The Congress as a whole was very well attended and thoroughly successful.

Naturally, owing to the sudden transfer to Melbourne it was not possible to arrange as many excursions as might have been wished. The section of veterinary science was very well attended, not only by veterinarians resident in the State of Victoria, but also by a number from New South Wales and South Australia. All members however, are eligible to attend the meetings of any of the sections, and this privilege was freely availed of by veterinarians, especially when somewhat allied subjects were being dealt with in other sections.

For his presidential address, Professor Woodruff took as his subject: "The Development of the Present Conception of Immunity."

Joint discussions were held with the Agricultural and Sanitary Science Sections on the "Repression of Animal Tuberculosis," the subject being opened by Professor Douglas Stewart; another subject discussed (with the Biological and Agricultural Sections) was "The Present Position of Theories of Heredity," the subject being opened by Professor W. E. Agar.

Members of the section also discussed "The Prevalence of Contagious Diseases in Australia and the danger of introduction from Abroad."

A joint discussion was also held with the Sanitary Science Section on "Milk Production" and "Meat Inspection," the subjects being opened by Mr. W. A. N. Robertson (C.V.O., Melbourne) and Mr. Max Henry (Government Veterinary Officer, Sydney) respectively.

Papers were contributed by Mr. G. G. Heslop, M.V.Sc., D.V.H., on "Researches into the Serological Diagnosis of Pleuro-pneumonia in Cattle."

Mr. F. E. Place, B.Sc., M.R.C.V.S., spoke on "Milk Vitamines in Diet Deficiency Diseases in Live Stock," and Dr. H. R. Seddon on the "Problem of Abortion Disease of Bovines," and "A record of the occurrence of Bacillary White Diarrhœa of Chicks in Australia."

Owing to the non-receipt of another paper (due to shipping disorganisation) Dr. J. A. Gilruth kindly came forward and addressed the section on "The methods of control and eradication of ticks in U.S.A. and their applicability in Australia."

It will be seen from the above that the subjects brought forward were sufficiently comprehensive to interest members in every field of veterinary science. Admirable discussions resulted and everyone felt the benefits of such a meeting, which allowed not only a free exchange of ideas, but the making (or renewing) of friendships with veterinarians from the other States and so helped to weld together the profession in Australia.

Animal Diseases Research Association.

At a meeting of Directors of this Association, held in Edinburgh on 9th March, 25 candidates for membership were duly elected.

A report on the state of the finances showed the Association to be making satisfactory progress. A sum is now at the disposal of the Joint Committee of Investigation for research into certain specific diseases, which will permit of the Committee making an immediate start in the practical work of the Association. The appeal for the promised Government grant has now been lodged with the Development Commissioners for their consideration.

The work of the Association was brought before Lothian farmers at a meeting at Gorgie, on March 16th.

Mr. Thomas Kirk, of Abbey Mains, Haddington, who presided, said that the Lothians had not really come up to the mark in the way of supporting the Association.

He did not blame the farmers entirely, because the matter had not been brought very strongly before their notice. At the same time he thought the Lothian farmers realised the importance of the Association, and would see it to be their duty to become members.

Mr. Andrew Linton, Gilmanscleuch, Selkirk, president of the Association, who was the first speaker, said the Association had been formed to direct investigation into the communicable diseases of the live stock of the farm, the diseases of horses, cattle, sheep, pigs, poultry, and dogs. Those who had a healthy farm or healthy stock could rest assured that their immunity from disease was temporary, and they could have no security from infection until the communicable diseases were eradicated from the stocks of Scotland. Feeders of stock constantly ran the risk of buying infected stock. The animal loss in Scotland from disease was certainly well over £1,000,000. He maintained that any eradication of the diseases of the live stock of the farm would be of great profit to the farmers and landlords of the country. The sanitation of the farm had been a neglected field, and money spent on research would give a return. They knew that there was no communicable disease which could defy the ingenuity of the scientific worker. He was ashamed to have to confess that with regard to many diseases he knew no more about them than his horsemen, cattlemen, or shepherds; yet he knew that it was his duty to use his brains, and the best brains procurable, to discover the cause of those diseases.

The old generation of farmers were more attentive to their duties than they were, and they could only excel them by applying modern scientific methods to their business. The plant-breeding scheme and the Animals' Diseases Research Association were their first attempts to secure the benefits of scientific progress for the practical farmer. Why should they expect the college professors to neglect their own work in order to give farmers the profitable application of science? The Board of Agriculture were anxious that they should accept the responsibility of carrying out research in the domain of farm sanitation.

An X-Ray Martyr.

"The dangers to which physicians making use of X-rays in their daily practice expose themselves receive a new and tragic illustration in the death of Dr. Ironside Bruce, radiologist to Charing Cross Hospital," says the medical correspondent of *The Times*.

"Not only so, but it would appear that the new X-ray tubes possess powers of penetration, and so of injury, far in excess of those which characterized the early forms, and that Dr. Bruce has fallen victim to a destruction of the blood—so-called aplastic pernicious anæmia—occasioned by frequent exposure to the gamma rays which these tubes emit. In other words, the protective measures devised against the older tubes are inadequate when used against the newer, the rays from which are not stopped by the screens.

Dr. Bruce's death thus calls attention to a danger which would seem to be present everywhere, and to which no doubt many other workers are now exposed. It has been known for some time that radium is capable of producing these effects by interfering with the regeneration of the red blood corpuscles in bone marrow. Several radium workers have died of this condition. An X-ray worker in Italy is also reported to have died.

When the tubes of higher penetrating power were introduced, Dr. Bruce was among the first to obtain them. Indeed, the writer had a long discussion with him on the subject before these tubes had come into general employment. Dr. Bruce believed then that the improvements obtained would greatly enlarge the usefulness of the X-rays, more especially in the treatment of malignant growths and blood diseases. His hopes have been in a measure fulfilled, and his own work on the anæmias remains as a memorial to his industry and imagination.

Unhappily, what seems to have occurred in other directions has occurred in this one also; the effect of a few doses of the rays and the effect of many doses are different. In his zeal to help others, this brilliant young physician has sacrificed his own life."

Heavy Swine Fever Fines.—Patrick Taggart, pig-feeder, Lightburn, Budhill, was charged on March 17th before a J.P. Court for the Lower Ward of Lanarkshire in the County Buildings, Glasgow, with having had in his possession thirty-five pigs affected with or suspected of having swine fever, and that he failed to give notice of the outbreak to the authorities. He was further charged with having on December 6th exposed twenty pigs for sale at Lanark and fifteen pigs in an auction yard in Glasgow on December 8th, all of which were diseased or suspected of being diseased. Evidence was led to show that the pigs disposed of at Lanark and Glasgow had nearly all died of swine fever within a short space of time after the sales. Accused was found guilty on all counts, and was fined £100 with an alternative of two months' imprisonment.

Sheep Scab Offences.—For having failed to notify the police authorities that he had 32 sheep affected with or suspected of sheep scab, Thomas Webster, farmer, Trynlaw, Cupar, was fined £32, with the option of 60 days' imprisonment, at Cupar Sheriff Court on 1st March.

Precautions against Anthrax.—As a protection against the spread of anthrax, a prohibition is issued against the importation of the following goods, on and after June 1st, except through the Port of Liverpool, where special conditions will have to be observed. All goat hair produced in or exported from or through India, and all wool and animal hair produced in or exported from or through Egypt, including the Anglo-Egyptian Soudan, and all goods mixed therewith.

By an Order of the Department of Agriculture issued on March 15th, the area of the foot-and-mouth scheduled district in County Wicklow is further reduced to one of, approximately, 3¾ miles radius from the infected premises at Arklow. The regulations dealing with the control of dogs and the restrictions on the movement of hay and straw are also removed.

A new British "record" and a further step forward in milk production have been established by Mr. Holt-Thomas's Northdean herd of British Friesians. The cow Colton Secret 3rd, which a year ago held the then British "record" of 10½ gallons in one day, has in 360½ days just completed a "record" of over 2,500 gallons, and is still yielding over 4½ gallons per day. Colton Secret 3rd has given considerably more than fifteen times her weight in milk during the twelve months.

Charged with permitting cock-fighting on his farm, an English farmer pleaded that there was no offence within the meaning of the Act, as the birds fought with "boxing gloves" (a pair of which were produced), and the victory went to the bird which scored the most points. Fined £25.

Central Veterinary Society.

The monthly meeting of the above Society will be held at 10 Red Lion Square, W.C., on Thursday, April 7th, 1921, at six o'clock.

Agenda:—Routine business.

Mr. G. H. Livesey, on "Some observations on Canine Practice."

HUGH A. MACCORMACK, *Hon. Secretary.*

The Trend towards Dairying.

If, in order to secure the protein and fat value of meat, grains are fed to animals, much of the human food value of the grain is lost in the form of its energy value which cannot be transmitted to the meat of the animal. When the number of pounds of dry feed consumed are compared with the number of pounds of dry human food produced by various animals the economy of the cow is distinctly shown. The steer, it has been found by WOOD, requires 64lb. of dry food, chiefly roughages, to produce 1 lb. of dry human food; the cow requires 12 lb., likewise chiefly roughages. Sheep require to consume 24 lb. of such dry feed, while fowl require only 14 lb. to achieve a similar result. The latter is, however, chiefly grain, as is the case with pigs, which require only 12 lb. of grain as compared with the 12 lb. of roughage needed by the cow.

A closer examination of the relative amounts of edible human food produced by the steer and dairy cow shows still more clearly the advantage in favour of the latter. A comparison made by HENRY of a cow giving 30 lb. of milk daily with a steer gaining 15 lb. weekly, shows that in one week the cow produces 26·25 lb. of dry matter, as compared with 10·88 lb. gained by the steer. Assuming the average production of 3·5 per cent. milk per cow to be 4,000 lb. annually, which is probably somewhat low, the average cow will produce in one year, besides giving birth to a calf and maintaining her body, 470 lb. of dry edible foodstuff as compared with 412 lb. of dry edible matter in the body of a 1,200 lb. two-year-old steer. As a machine the 1,000 lb. dairy cow is shown by extensive and lengthy experiments at the Minnesota Experiment Station to be more efficient than either the horse or the steam engine, since she only required about 47 per cent. of the food she consumes to support her body and about 24 per cent. in the work of converting food into milk, while she returns 29 per cent. of her total feed as milk.

JORDAN gives some illuminating figures by way of comparison between the dairy cow and other live stock in the matter of economy. He finds that the order of food efficiency of the several animal products is as follows: Milk, pork, veal, poultry and eggs, mutton and beef. He also says that the cow will return 18 lb. of edible solids in her milk for every 100 lb. of digestible organic matter in her feed. She will return 9·4 lb. of edible solids in cheese and 5·44 lb. in butter, as compared with 2·75 lb. in the carcase of a steer, 2·6 lb. in mutton, 15.6 lb. in pork, 8·1 lb. in veal, 4·2 lb. in poultry, and 5·1 lb. in eggs. The possibilities of still further advantage for the cow over the steer are ascertained by comparing such a cow as Tilly Alcartra, that produced 33,425 lb. of milk in one year, with a 1,200 lb. steer. This amount of milk contained 3,759 lb. of dry edible food, or an amount equal to that contained in the bodies of nine steers. Moreover, the steers consumed five times as much food as she required to produce this amount of milk, so that improvement in dairying presents infinitely greater possibilities for economical food production than does improvement in beef raising.

Dairy products take but little fertility from the soil, while the dairy farmer is usually a purchaser of feeding stuffs high in protein, which as usually fed in the proportion of 1 lb. to each 3 lb. or 4 lb. of milk, are relatively cheap sources of soil fertiliser. A dairy cow, according to ECKLES, voids about 12 tons of solid and liquid manure per year, which, according to pre-war fertiliser values, was worth about $30. At 4,000 lb. of milk per cow, the amount of fertility sold as milk amounted to only $5.12 per year, while at $1.50 per 100 lb. the annual return per cow from milk was $60. Where butter or cream was sold the fertility loss from dairy farms was almost insignificant. Dairy farming is, in fact, the ideal type of mixed farming when carried on in connection with hog production.—*Farmers' Advocate*, Ontario, Canada. (Extracted in *Live Stock Journal*.)

Vienna Milk Famine.

"Mission Cows" is the pointed title of a pamphlet issued by the Friends' Relief Mission in Vienna. It tells the story of the means taken to provide fresh milk for the starving children in what was once the proud capital of the Austrian empire. In pre-war days that gay city was provided with a milk supply under ultra-hygienic conditions. Now the reverse is the case, and the contrast is one of the unspeakable phases of the aftermath of war. Its market with accommodation for 20,000 beasts on 8th August, 1920, had but 26 head, and the best animal among them was a seventeen-year-old work-worn bullock. As the cattle pass to the abattoirs the employees seize upon the teats of the cows and extract what milk be available there. To relieve the appalling destitution the Anglo-American Relief Mission of the Society of Friends, in the spring of 1920, brought 48 Swiss cows from Switzerland into Austria. A byre of these cows is a welcome sight in that famishing city. But the experiment could not be repeated, on account of a great advance in the price of these cows. Transport difficulties from Great Britain made it impossible to buy here, and so the Friends turned to Holland. In spite of prejudice against Dutch cows in Austria, 262 red and white Rhine-Meuse-Yssel cows were imported. These were preferred to the Friesians, being reputed hardier. With characteristic energy and foresight the Dutch Government took control of the shipment, and allowed no cow to go to Austria without being certified sound and free from disease. It might be worth while cultivating this trade. —*The Scottish Farmer*.

A Great Show Year.—This will be the biggest show year in the history of British agriculture. The list of shows already provided for numbers nearly 350.

The most striking feature of present agriculture is the keen rivalry between breeders of pedigree farm animals. In the pig breeding world just now the rivalry is more intense than among any other class of stock. Ten different breeds will be seen in one showyard at the Royal, opening on June 28th, at Derby, where 21 breeds of cattle will contain a novelty in the form of Blue Albions, for which a newly establischd society claims great hardiness, good milk, and beef qualities.

The Blue Albion is grey-blue in colour. Its home is the High Peak district, where many animals are found prospering at 1,000ft. above the sea level.

Both the King and the Prince of Wales will exhibit animals at the leading shows, several of which the Prince and the Duke of York will attend. The first of these royal visits will be to Tavistock on May 24th, when the Prince will be present at the Devon County Show and will exhibit stock from his neighbouring home farm.

Correspondence.

Letters to the Editors should reath the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue

The Senior Members of the R.C.V.S. Council.

Sirs,—It was most refreshing to read your article in this week's *Record;* it exhibited a spirit of fairplay to which the senior members of the council of the R.C.V.S. have for some time been unaccustomed, so that if the other senior members are like myself they must have gasped with astonishment. They have, during the last year or two, been subjected to so much abuse, that we could hardly realise it. Your contemporary has been the greatest offender in this respect, the Editor of which, like his prototype Diogenes, lolls in his tub and in his intervals of somnolence mumbles "clear them all out of my sight!" Hitherto we have taken it good-humouredly and smiled at the want of knowledge and at the vanity displayed. I am of opinion that not one of the senior members now on the council need be ashamed of his record. I for one am not. My introduction to the public life of the veterinary profession was a short time before the passing of the first "Act of Parliament." I was then in practice in the County of Durham, and was President of the N.E.V.M. Association, and at the sug-

gestion of Dr. Fleming, obtained signatures to the petition to the House of Commons in its favour. I believe all the other associations did the same. For this purpose I visited most of the veterinary surgeons practising in the Counties of Northumberland, Durham and North Yorkshire, and subsequently went up to London and spent three nights in the lobby of the House of Commons, interviewing North-Country M.P.'s. The success of Dr. Fleming's efforts in carrying the "Bill" through are ancient history. At this time an agitation was commenced for the repeal of the 9th clause of the 1876 charter, and in addition, demanding that the offices of member of council and examiner should not be held at the same time by one and the same person. Shortly after this I was nominated by the N.E.V.M. Association for a seat on the council, and in 1885 was elected, and as showing the interest taken by the rank and file of the profession, I was returned with 241 votes, and was not the lowest on the poll of the successful candidates. Times have changed since then, but there is still not so much interest taken in the *selection of candidates* for the council as there ought to be. One of the principal factors in bringing about the alteration was the establishment of a weekly Journal, *The Veterinary Record*, by our late greatly-esteemed friend William Hunting. He made a special point of giving full reports in his Journal of what took place at the council meetings. Up to this time no one knew, or seemed to care, anything about the doings of their representatives. Things were soon altered, and I rejoice to say that the present senior members took an active part in bringing the change about. From that time onwards the work of the council has been one of steady progress, and it has increased by leaps and bounds until it is often difficult to cope with. Everyone of the senior members has been regular in attendance at the various meetings, and has taken his full share of work. I don't believe I have been absent more than a dozen times during the whole period I have been a member and for the first two years after my election I travelled some 250 miles each way to every meeting, and only missed one in the two years. The other senior members, Col. Mason, Sir John McFadyean, Messrs. Trigger, Lawson and Major Abson have all done yeoman service, seldom being absent from a meeting and during their long service must have travelled thousands of miles at no little expense to themselves. It would be difficult to say how many hours have been spent in the council room. Meetings seldom take less than four hours, often much longer, and committees, of which there are many, occupy about six hours. In 1888 the council was requested by the Royal Commission on horse breeding and the Royal Agricultural Society to call a conference of the veterinary profession to advise them as to what diseases in horses the veterinary profession regarded as hereditary. This entailed an immense amount of work, and after some delay a report was drawn up and submitted. It was at once adopted and has been recognised up till the present time. What stirring times these were from 1885 to 1892! The first work was the effort to obtain a New Charter to repeal the ninth clause of that granted in 1876, which deprived members of the right to act as representatives of the council or to act as examiners. In this I was the leader, and in order to test the feelings of the profession on this question, I issued a circular to the whole of the members, submitting to them a series of questions and asking for a reply on an enclosed prepaid post card; the result was astonishingly unanimous. No less than 98 per cent. were in favour and only 2 per cent. against. In this work I was ably assisted, not only by *The Record*, but by the Messrs. Dollar, to whom all praise was due for their part of the work. In spite of the result there was still a very powerful opposition on the council, so it was determined that at the next election we would run a list of candidates, everyone of whom pledged himself to vote in favour of the proposed alterations. The result was that everyone of the old members who were due to retire and offered themselves for re-election were thrown out and all our nominees were elected. These tactics were repeated in the following year with a like result. Now we felt we could go to the Privy Council, backed by an almost unanimous profession, and ask for a New Charter, which was granted in 1892, but the council would not adopt one part of the clause which I was desirous of having inserted, and which it is now being realised ought to have been put in, viz., that Members as well as Fellows should be eligible to act as examiners. Immediately the Charter was obtained a few of us set to work in an endeavour to raise the standard of education; a four years' course was instituted, a written examination was added, the standard of the preliminary education was raised. The syllabus for the professional examination was drawn up in my house at Chelsea by Col. Frank Raymond, Mr. Hunting, and myself; night after night being spent in the work. Then a meeting of the examiners, teachers and members of council was called, over which I presided. The scheme was elaborated and submitted to the council and finally accepted. I believe in that year that I attended twenty meetings of council and thirty meetings of committees. I record this in no boasting spirit, but to show that the senior members of council have always acted in the best interest of the profession, and that in spite of the obloquy that has been latterly thrown at them they are still doing so. For myself I am an ardent advocate of a further advance, both in general and professional education, and hope that as soon as the time is ripe the course of study may be extended to five years, and I hope that I may live to see these improvements carried out.

I say without fear of contradiction that it is not the senior members of the council who are mentally fossilised, and that if there are any in that unenviable condition they must be sought for elsewhere.

I am afraid, sirs, that I have been somewhat prolix, but you asked for particulars of what the senior members had been doing, and I have only given you a tithe of the work which has fallen upon their shoulders, and which they have cheerfully undertaken on behalf of the profession, who, having confidence in their ability and integrity have returned them to the council as their representatives.—I am, yours faithfully, W. J. MULVEY, "Muttsmoor," St. Nicholas Road, Upper Tooting.
March 22nd, 1921.

Pure Milk—Retained Placenta.

Sirs,—The point raised by Mr. C. A. Squair in the *Record* of March 12th is interesting. It is also very important from the standpoint of a clean milk supply.

Mr. Squair asks "By what channel does the milk get contaminated?" and further, "The question I would wish cleared up is whether in such a case the milk is likely to get contaminated from the blood of the animal?" His own opinion is in the negative.

I hold the opposite view. Emphatically, yes; milk frequently does become contaminated from retained placenta by way of the blood supply, through septic absorption from the uterus.

Country practitioners know that a large proportion of cases have a rise in temperature and other symptoms of systemic disturbance—sometimes grave, owing to absorption into the circulation.

If any proof is required of absorption taking place from the uterus and contaminating the milk, one may instance the placing of iodoform pessaries in the uterus and the subsequent tainting of the milk. Take again turpentine given medicinally in fairly large doses, it often flavours the milk and also butter made from it.

I have proof of these two instances and have had complaints from clients.

Wild garlic grows in several farms about here, and the disagreeable odour of it is given off by the milk as soon as it is drawn and it taints the butter; foul drinking water manifests itself in the milk. All this is conveyed by the blood stream.

Further, retention of the after birth is liable to contaminate the milk directly, from the exposed portion and the discharges coming in contact with the hind parts—

especially the tail, not to mention the drying of the discharges and their conveyance by the air.

It is objectionable to allow the membranes to remain long from a public health point of view, and it is our duty as professional men to educate our clients as to their responsibility in this respect.—Yours faithfully,

J. H. WYNNE, F.R.C.V.S.

Denbigh, *March 15th*, 1921.

Army Veterinary Service.

THE LONDON GAZETTE, WAR OFFICE.—REGULAR FORCES.

March 24th.—Temp. Captain G. D. Norman relinquishes the acting rank of Major on ceasing to hold the appointment of D.A.D.V.S. (December 23rd, 1920) (substituted for the notification in the *Gazette* of February 4th).

Diseases of Animals Acts, 1894 to 1914. Summary of Returns.

Period.	Rabies. Cases Confirmed. Dogs.	Rabies. Cases Confirmed. Other Animals.	Anthrax. Outbreaks confirmed.	Anthrax. Animals attacked.	Foot-and-Mouth Disease. Outbreaks confirmed.	Foot-and-Mouth Disease. Animals slaughtered as diseased or exposed to infection.	Glanders (including Farcy).* Outbreaks reported by the Local Authorities.	Glanders (including Farcy).* Animals attacked.	Parasitic Mange. Outbreaks reported by the Local Authorities.	Parasitic Mange. Animals attacked.	Sheep Scab. Outbreaks reported by the Local Authorities.	Swine Fever. Outbreaks confirmed.	Swine Fever. Swine slaughtered as diseased or exposed to infection
GT. BRITAIN. Week ended 19th March, 1921...	No. 1	No. ...	No. 13	No. 13	No ...	No. ..	No. ...	No ...	No. 49	No. 66	No. 9	No. 15	No. 8
Corresponding Week in 1920	...	...	15	15	...	...	...	...	109	177	11	38	11
Corresponding Week in 1919	2	..	5	5	...	...	...	...	131	247	4	19	5
Corresponding Week in 1918	...	...	12	14	...	...	1	1	115	211	5	14	2
Total for 12 weeks, 1921 ...	16	1	170	196	24	2326	2	5	969	1543	312	254	65
Corresponding period in 1920	3	...	119	146	39	2001	9	16	1717	3104	243	514	182
Corresponding period in 1919	24	...	48	66	19	1033	1	1	1976	3987	181	257	89
Corresponding period in 1918	...	...	83	97	...	...	8	29	1753	3407	194	180	70
GT. BRITAIN. Week ended 26th March, 1921...	No. 1	No. ...	No. 9	No. 13	No. ...	No. ...	No. 1	No. 1	No. 42	No. 79	No. 6	No. 20	No. 10
Corresponding Week in 1920	...	...	9	13	...	...	...	...	92	126	9	54	20
Corresponding Week in 1919	3	...	3	4	...	...	2	15	140	268	11	18	6
Corresponding Week in 1918	...	...	3	3	...		1	1	105	185	7	15	6
Total for 13 weeks, 1921 ...	17	1	179	209	24	2326	3	6	1011	1622	318	274	75
Corresponding period in 1920	3	...	128	159	39	2001	9	16	1809	3230	252	568	202
Corresponding period in 1919	27	2	51	70	19	1033	3	16	2116	4255	192	275	95
Corresponding period in 1918	...	...	86	100	...	..	9	30	1859	3592	201	195	76

NOTE.—The figures for the current year are approximate only. *Excluding outbreaks in Army horses.

*IRELAND. Week ended 12th March, 1921	...	...	...	...	...	...	Outbreaks 1	2	...	18
Corresponding Week in 1920 ...	...	...	...	...	...	1	6	7	...	...
Corresponding Week in 1919 ...	...	...	...	...	...	...	3	5	1	5
Corresponding Week in 1918 ...	...	...	...	...	...	...	3	8	...	..
Total for 11 weeks, 1921	...	...	2	41	...	...	29	106	16	122
Corresponding period in 1920 ...	...	...	...	...	1	3	47	104	2	4
Corresponding period in 1919 ...	...	...	...	...	1	1	38	103	13	47
Corresponding period in 1918 ...	1	1	...	...	...	...	41	131	4	22
†IRELAND. Week ended 19th March, 1921	...	...	...	...	...	...	Outbreaks 1	3	...	2
Corresponding Week in 1920 ...	...	...	...	...	...	...	1	1	...	...
Corresponding Week in 1919 ...	...	...	...	...	...	...	3	4	1	...
Corresponding Week in 1918 ...	...	...	...	...	...	..	3	2	1	2
Total for 12 weeks, 1921 ..	...	...	2	41	..	..	30	109	16	124
Corresponding period in 1920 ...	...	...	...	...	1	3	48	105	2	4
Corresponding period in 1919 ...	...	..	...	...	1	1	41	107	14	47
Corresponding period in 1918 ...	1	1	...	...	...	...	44	133	5	24

NOTE.—The figures for the current year are approximate only.

Department of Agriculture and Technical Instruction for Ireland (Veterinary Branch), Dublin, *14th, †21st March, 1921.

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